

# Technical Data

The following information describes the structural and durability of Perma-Tread. Made from recycled HDPE & LDPE with Recycled Fiberglass for structure with an UV additive to prevent deterioration. Designed to not rot, split, crack, or splinter. It is resistant to termites, salts, oil, mildew, and mold.

## Perma-Tread Technical Data (Standard Profiles)

### DIMENSIONS

	Perma-Tread 212	Perma-Tread 312	Perma-Tread 412	Perma-Tread T&G 210
Actual Depth	11.25"	11.25"	11.25"	9.1"
Actual Thickness	1.5"	2.5"	3.5"	1.5"
Length	Up to 16'	Up to 16'	Up to 20'	Up to 16'
Weight	6.5 Lbs. +/- Lf	11 Lbs. +/- Lf	15 Lbs. +/- Lf	5.5 Lbs. +/- Lf

### MAXIMUM FREE SPAN LIVE LOAD TABLES AT 78 °F

	Perma-Tread 212	Perma-Tread 312	Perma-Tread 412	Perma-Tread T&G 210
60 Lbs. / Sq. Ft.	37.9"	59.4"	82.5"	37.9"
85 Lbs. / Sq. Ft.	34.1"	53.7"	75.0"	34.1"
100 Lbs. / Sq. Ft.	32.4"	51.2"	71.6"	32.4"
150 Lbs. / Sq. Ft.	28.5"	45.2"	63.5"	28.5"
200 Lbs. / Sq. Ft.	26.0"	41.3"	58.1"	26.0"

### MAXIMUM FREE SPAN LIVE LOAD TABLES AT 122 °F

	Perma-Tread 212	Perma-Tread 312	Perma-Tread 412	Perma-Tread T&G 210
60 Lbs. / Sq. Ft.	32.1"	50.3"	69.8"	32.1"
85 Lbs. / Sq. Ft.	28.9"	45.5"	63.5"	28.9"
100 Lbs. / Sq. Ft.	27.4"	43.4"	60.6"	27.4"
150 Lbs. / Sq. Ft.	24.1"	38.3"	53.7"	28.5"

**MAXIMUM FREE SPAN LIVE LOAD TABLES AT 122 °F**

	Perma-Tread 212	Perma-Tread 312	Perma-Tread 412	Perma-Tread T&G 210
200 Lbs. / Sq. Ft.	22.0"	35.0"	49.2"	24.1"

**FIRE RATING**

	ASTM E84 (Metal Stair Assembly)	ASTM E84 (Fully Exposed To Flame)
Class Rating	A	B
Flame Spread Index	0	65
Smoke Developed Index	20	350

**SLIP RATING**

	ASTM E303 (Pendulum Slip Resistance)
Dry	90
Wet	47

**PROPERTIES**

	ASTM Test	Value / Units
Specific Gravity	D6111	0.93
Flexural Strength	D6109	2,750 psi
Flexural Modulus (Secant, at 1% strain)	D6109	306 ksi
Compressive Strength (Perpendicular to grain)	D6108	1,482 psi
Compressive Modulus (Perpendicular to grain, Secant, at 1% strain)	D6108	54 ksi
Coefficient of Thermal Expansion	D6341	0.000033 in/in/°F
Static Coefficient of Friction - Dry	D2047	0.73 average
Static Coefficient of Friction - Wet	D2047	0.90 average
Impact Resistance (Izod)	D256	2.64 ft-lb/in
Water Absorption	D570	0.27% max by weight

**PROPERTIES**

	ASTM Test	Value / Units
Screw Withdrawal	D6117	646 lbs
Useful Temperature Range		-40°F to +140°F

All above values shall be considered average except flexural strength. This value must have appropriate reduction factors set by the engineer of record.

**MATERIAL PROPERTIES**

	Description of Test Method	ASTM	Value / Units
<b>Brittleness</b>	Standard Test Method for Brittleness Temperature of Plastics and Elastomers by Impact	D746-07	No break at -40°F
<b>Density and Specific Gravity</b>	Standard Test Methods for Density and Specific Gravity of Plastics by Displacement	D792	58 lbs/cu.ft 0.0336 lbs/cu.in Specific Gravity: 0.93
<b>Hardness-Shore D</b>	Standard Test Method for Rubber Property—Durometer Hardness	D2240- Type D	80
<b>Abrasion Resistance</b>	Standard Test Method for Abrasion Resistance of Organic Coatings by Taber Abraser	D4060 CS17 Wheel 10,000 cycles 2.2lb load	Weight Loss 0.023g / 0.043%
<b>Ignition Temperature</b>	Standard Test Method for Determining Ignition Temperature of Plastics; Flash Point / Ignition Temperature	D1929-96	824°F (440°C)
<b>UV: Effect on Hardness</b>	Standard Practice for Florescent UV Exposure of Plastics	D4329 & D2240	500 hrs: <1% Change in Hardness
<b>Chemical Resistance</b>	Standard Practices for Evaluation the Resistance of Plastics to Chemical Reagents	D543-06	Sea Water: 0.06% weight increase
<b>Chemical Resistance</b>	Standard Practices for Evaluation the Resistance of Plastics to Chemical Reagents	D543-06	Gasoline: 3.0% weight increase
<b>Chemical Resistance</b>	Standard Practices for Evaluation the Resistance of Plastics to Chemical Reagents	D543-06	No.2 Diesel: 1.05% weight increase

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